

REMARKS

Claims 1-30 are pending in the application. By this Amendment, claims 1, 6, 14, 22, 23, 28, 29 and 30 are amended to clarify the disclosed embodiments. No new matter is added by these amendments, and these amendments are supported fully by the specification. Reconsideration in view of the above amendments and following remarks is respectfully requested.

I. Claims 1-13, 23-27 And 30 Are Patentable Over Ogrodnik

In the Office Action, claims 1-13, 23-27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over the published article "Bistatic Laptop Radar," Robert F. Ogrodnik, IEEE 1996 National Radar Convention, Ann Arbor, Michigan, May 13-16, 1996, 369-73 (hereinafter "Ogrodnik"). The rejection is respectfully traversed.

Ogrodnik discloses coherent noncooperative bistatics technology that utilizes broadband signals to conduct integrated surveillance and target imaging. However, Ogrodnik does not disclose the general concept of buffering digitized transmission replicas as recited in the rejected claims. Specifically, Ogrodnik does not disclose "a front-end processing subsystem ...to buffer digitized transmission replicas of the received transmissions" as recited in claim 1 and "a front-end processing subsystem ...to buffer digitized transmission replicas of said digitized signals," as recited in claim 6. Also, Ogrodnik does not disclose "buffering digitized transmission replicas of said scattered transmissions and said reference transmissions," as recited in claim 23. Further, Ogrodnik does not disclose "means for buffering digitized transmission replicas of said scattered transmissions and said reference transmissions, wherein said buffered digitized transmission replicas can be transmitted for analysis upon request by a user" as recited in claim 30. Moreover, there is no suggestion to add those features of claims 1, 6, 23 or 30 missing from Ogrodnik. In addition, there is no motivation in Ogrodnik to modify its teachings arrive at the features recited in claims 1, 6, 23 or 30. Therefore, Ogrodnik does not disclose or suggest all the claimed features. Applicants maintain

that a prima facie case of obviousness is not established with regard to claims 1, 6, 23 and 30, as amended.

To establish a prima facie case of obviousness, three criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be some expectation of success. Third, the prior art references must disclose or suggest all of the claimed features. MPEP 2143. Applicants respectfully submit that these criteria have not been met.

Claims 2-5, 7-13 and 24-27 depend from independent claims 1, 6 and 23. If an independent claim is nonobvious, then any claim depending from the independent claim is nonobvious. MPEP 2143.03. Thus, it is respectfully submitted that dependant claims 2-5, 7-13 and 24-27 are distinguishable over the applied reference for at least the reasons described above. Therefore, withdrawal of the rejection of claims 1-13, 23-27 and 30 is respectfully requested.

II. Claims 1-22, 28 And 29 Are Patentable Over Ogrodnik In View of Strayer

In the Office Action, claims 1-22, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogrodnik in view of U.S. Patent No. 4,063,073 to Strayer (hereinafter "Strayer"). The rejection is respectfully traversed.

As discussed above, Ogrodnik does not disclose all of the features of claims 1, 6 and 14. Strayer discloses desirability of using aircraft position data to provide alerts to a controller and pilot if an aircraft's track will intersect with, or nearly intersect with, another aircraft. Strayer fails to supply the deficiencies of Ogrodnik. Therefore, the combination of Ogrodnik and Strayer fails to disclose the features of claims 1, 6, and 14 as described above. Furthermore, both Ogrodnik and Strayer fail to provide the requisite suggestion for combining and/or modifying their teaching to arrive at the invention recited in claims 1, 6 and 14. Therefore it is respectfully

submitted that claims 1, 6 and 14 are distinguishable over the applied art.
Withdrawal of the rejection of claims 1, 6, and 14 is respectfully requested.

Furthermore, claims 2-5, 7-13, and 15-22 depend from independent claims 1, 6, and 14. Thus, it is respectfully submitted that dependant claims 2-5, 7-13 and 15-22 are likewise distinguishable over the applied references for at least the reasons described above. Therefore, withdrawal of the rejection of claims 1-22, 28 and 29 under 35 U.S.C. § 103 is respectfully requested.

CONCLUSION

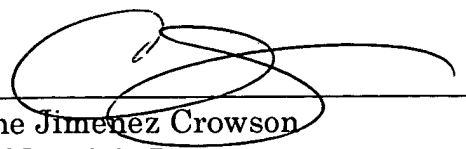
In view of the foregoing, Applicants submit that this application is in condition for allowance, and such disposition is earnestly solicited. If the Examiner believes that the prosecution of this case might be advanced by discussing the application with Applicants' representative, in person, or over the telephone, we would welcome the opportunity to do so.

EXCEPT for fees payable under 37 CFR §1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application, including fees due under 37 CFR §1.16 and 1.17 which may be required, including any required extension of time fees, or credit, any overpayment to deposit account No. 50-1349. This paragraph is intended to be a constructive petition for extension of time in accordance with 37 CFR §1.136(a)(3).

Respectfully submitted,

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HOGAN & HARTSON L.L.P.
Columbia Square
555 Thirteenth Street, N.W.
Washington, D.C. 20004-1109
Telephone: (202) 637-5600
Facsimile: (202) 637-5910

By:


Celine Jimenez Crowson
Reg. No. 40,357
Ajit J. Vaidya
Reg. No. 43,214

Attachment: Appendix (Marked to Show Changes Made)

APPENDIX
(Marked to Show Changes Made)

IN THE CLAIMS:

Please amend claims 1, 6, 14, 22, 23, 28-29 and 30 as follows:

1. (Amended) A system for enhancing object state awareness to track a plurality of approaching airborne objects, comprising:

a receiver subsystem to receive reference signals from an uncontrolled transmitter and scattered transmissions originating from the uncontrolled transmitter and scattered by an object of said plurality of approaching airborne objects;

a front-end processing subsystem to determine a radial velocity of the object based on the received transmissions and to buffer digitized transmission replicas of the received transmissions; and

a back-end processing subsystem to received the digitized transmission replicas of the received transmissions to determine object state estimates based on the determined radial velocity.

6. (Amended) A passive coherent location system for monitoring a predetermined location within airspace, comprising:

a receiver subsystem to receive scattered transmissions scattered by an object within said airspace and to output digitized signals of said scattered transmissions, said scattered transmissions originating from an uncontrolled transmitter;

a front-end processing subsystem to determine a frequency-difference-of-arrival for said digitized signals and to buffer digitized transmission replicas of said digitized signals; and

a back-end processing subsystem to received the digitized transmission replicas and to determine positional information for said object in accordance with said frequency-difference-of-arrival.

14. (Amended) A method for determining an updated state estimate for an object, comprising:

receiving a reference transmission from an uncontrolled transmitter and a scattered transmission that originated from said uncontrolled transmitter and that was scattered by the object;

comparing the received transmissions to determine a measurement differential;

updating a previous state estimate based on the determined measurement differential;

buffering digitized transmission replicas of said received transmissions,
wherein said digitized replicas are received by a back-end processing subsystem;
and

issuing a warning when said object is within a predetermined distance from a ground location.

22. (Amended) A method for determining an updated state estimate for an object, comprising:

receiving a reference transmission from an uncontrolled transmitter and a scattered transmission that originated from said uncontrolled transmitter and was scattered by the object;

comparing the received transmissions to determine a measurement differential;

updating a previous state estimate based on the measurement differential;
buffering digitized transmission replicas of said received transmissions,
wherein said digitized replicas are received by a back-end processing subsystem;
and

issuing a warning when said object undertakes an airpath, wherein said airpath intersects with another object.

23. (Amended) A method for tracking an object using a civil aviation passive coherent location system, comprising:

selecting a transmitter transmitting a reference transmission;

receiving said reference transmission;

receiving a scattered transmission scattered by an object within an airspace, wherein said scattered transmission is transmitted from said transmitter;

comparing said scattered transmission to said reference transmission to determine measurement differentials;

buffering digitized transmission replicas of said scattered transmissions and said reference transmissions; and

updating an object state estimate according to said measurement differentials.

28. (Amended) A system for determining an updated state estimate for an object, comprising:

means for receiving a reference transmission from an uncontrolled transmitter and a scattered transmission that originated from said uncontrolled transmitter and was scattered by the object;

means for comparing the received transmission to determine a measurement differential;

means for updating a previous state estimate based on the determined measurement differential;

means for buffering digitized transmission replicas of said received transmissions, wherein said digitized replicas are received by a back-end processing subsystem; and

means for issuing a warning when said object is within a predetermined distance.

29. (Amended) A system for determining an updated state estimate for an object, comprising:

means for receiving a reference transmission from an uncontrolled transmitter and a scattered transmission that originated from said uncontrolled transmitter and was scattered by the object;

means for comparing the received transmission to determine a measurement differential;

means for updating a previous state estimate based on the measurement differential;

means for buffering digitized transmission replicas of said received transmissions, wherein said digitized replicas are received by a back-end processing subsystem; and

means for issuing a warning when said object undertakes an airpath, wherein said airpath intersects with another object.

30. (Amended) A system for tracking an object using a civil aviation passive coherent location system, comprising:

means for selecting a transmitter transmitting a reference transmission;

means for receiving said reference transmission;

means for receiving a scattered transmission scattered by an object within an airspace, wherein said scattered transmission is transmitted from said transmitter;

means for comparing said scattered transmission to said reference transmission to determine measurement differentials;

means for buffering digitized transmission replicas of said scattered transmissions and said reference transmissions, wherein said buffered digitized transmission replicas can be transmitted for analysis upon request by a user; and

means for updating object state estimate according to said measurement differentials.